

Analytical Methods Recommended for Drinking Water Compliance Monitoring of Secondary Contaminants

Analysis for the following contaminants may be conducted with the methods in the following table, or their equivalent as determined by EPA. Methods for copper, fluoride and pH are listed in 40 CFR 141.23 and methods for the remaining contaminants are in 40 CFR 143.4. Additional methods are listed in Appendix A to Subpart C of Part 141. The recommended monitoring for these contaminants is specified in 40 CFR 143.4.

The CFR is the legal reference for approved methods and takes precedence over this table. The table should accurately reflect the analytical methods information published in 40 CFR 141 and 143. If discrepancies are found, please notify the Safe Drinking Water Hotline (800-426-4791) so that EPA can correct the table.

Aluminum

Criteria for analyzing water samples for aluminum, copper, iron, manganese, silver and zinc with digestion or directly, without digestion, and other recommended procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site (EPA/600/R-94/173).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	ЕРА	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry	October 2003	EPA/600-R-06/115	National Environmental Methods Index
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		<u>Standard Methods</u>

Office of Water (MS – 4606 M) EPA 815-B-16-018 September 2016

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3111 D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3111 D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 D-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Chloride

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D4327-97	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	1997		ASTM International
D4327-03	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2003		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D4327-11	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2011		ASTM International
D512-89 B	ASTM International	Standard Test Method for Chloride Ion in Water – Silver Nitrate Titration	1989		ASTM International
D512-04 B	ASTM International	Standard Test Method for Chloride Ion in Water – Silver Nitrate Titration	2004		ASTM International
D512-12 B	ASTM International	Standard Test Method for Chloride Ion in Water – Silver Nitrate Titration	2012		ASTM International
300.0, Rev. 2.1	EPA	In Methods for the Determination of Inorganic Substances in Environmental Samples	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	EPA	In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1	August 2000	EPA 815-R-00-014	National Environmental Methods Index
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-Cl ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-Cl ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-Cl ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-Cl ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-Cl ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-Cl ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-Cl ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-Cl ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-Cl ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-Cl ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-Cl ⁻ B- 97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-Cl ⁻ D- 97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
Method D6508, Rev. 2	Waters Corporation	Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte			Waters Corporation

Color

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
2120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
2120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
2120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
2120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
2120 B-01	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Copper

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1688-90 A	ASTM International	Standard Test Methods for Copper in Water – Atomic Absorption, Direct	1990		ASTM International
D1688-95 A	ASTM International	Standard Test Methods for Copper in Water – Atomic Absorption, Direct	1995		ASTM International
D1688-02 A	ASTM International	Standard Test Methods for Copper in Water – Atomic Absorption, Direct	2002		ASTM International
D1688-07 A	ASTM International	Standard Test Methods for Copper in Water – Atomic Absorption, Direct	2007		ASTM International
D1688-12 A	ASTM International	Standard Test Methods for Copper in Water – Atomic Absorption, Direct	2012		ASTM International
D1688-90 C	ASTM International	Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace	1990		ASTM International
D1688-95 C	ASTM International	Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace	1995		ASTM International
D1688-02 C	ASTM International	Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace	2002		ASTM International
D1688-07 C	ASTM International	Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace	2007		ASTM International
D1688-12 C	ASTM International	Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace	2012		ASTM International
200.5, Rev. 4.2	EPA	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled	October 2003	EPA/600-R-06/115	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		Plasma – Atomic Emission Spectrometry			
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
Hach 8026, Rev. 1.2	Hach Company	Spectrophotometric Measurement of Copper in Finished Drinking Water	December 2015		Hach Company
Hach 10272, Rev. 1.2	Hach Company	Spectrophotometric Measurement of Copper in Finished Drinking Water	December 2015		Hach Company
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Fluoride

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1179-93 B	ASTM International	Standard Test Methods for Fluoride in Water – Ion Selective Electrode	1993		ASTM International
D1179-99 B	ASTM International	Standard Test Methods for Fluoride in Water – Ion Selective Electrode	1999		ASTM International
D1179-04 B	ASTM International	Standard Test Methods for Fluoride in Water – Ion Selective Electrode	2004		ASTM International
D1179-10 B	ASTM International	Standard Test Methods for Fluoride in Water – Ion Selective Electrode	2010		ASTM International
D4327-97	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	1997		ASTM International
D4327-03	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2003		ASTM International
D4327-11	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2011		ASTM International
129-71W	Bran + Luebbe	Fluoride in Water and Wastewater	December 1972		Seal Analytical
380-75WE	Bran + Luebbe	Fluoride in Water and Wastewater	February 1976		<u>Seal Analytical</u>

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
300.0, Rev. 2.1	EPA	In Methods for the Determination of Inorganic Substances in Environmental Samples	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	ЕРА	In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1	August 2000	EPA 815-R-00-014	National Environmental Methods Index
Hach 10225, Rev. 2.0	Hach Company	Hach Company SPADNS 2 (Arsenic- free) Fluoride Method 10225 — Spectrophotometric Measurement of Fluoride in Water and Wastewater	January 2011		Hach Company
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-F ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-F ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-F- B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-F ⁻ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-F- B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-F ⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-F- C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-F ⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-F- C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-F- C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-F ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-F ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-F ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-F ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-F ⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-F ⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-F ⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-F ⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-F ⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-F ⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		<u>Standard Methods</u>
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			<u>Standard Methods</u>
4500-F ⁻ B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-F ⁻ C-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			<u>Standard Methods</u>
4500-F ⁻ D-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-F ⁻ E-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D6508, Rev. 2	Waters Corp.	Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte			Waters Corporation

Foaming Agent

Method	Organization	Reference Title	Date	EPA Publication	Source of Method
			2000	Number	
	Standard	Standard Methods for the			
5540 C	Methods	Examination of Water and	1992		Standard Methods
	Methous	Wastewater, 18 th Edition			
	Standard	Standard Methods for the			
5540 C	Methods	Examination of Water and	1995		Standard Methods
	Methous	Wastewater, 19 th Edition			
	Standard	Standard Methods for the			
5540 C	Methods	Examination of Water and	1998		Standard Methods
	Methous	Wastewater, 20 th Edition			
	Standard	Standard Methods for the			
5540 C	Methods	Examination of Water and	2005		Standard Methods
	Methous	Wastewater, 21st Edition			
	Standard	Standard Methods for the			
5540 C	Methods	Examination of Water and	2012		Standard Methods
	Wicthous	<i>Wastewater,</i> 22 nd Edition			
		Online version. Approval year is			
		designated by the last 2 digits.			
5540 C-00	Standard	Only online versions cited in the			Standard Methods
3340 € 00	Methods Online	regulations or in Appendix A to			<u>Standard Wicthods</u>
		Subpart C of Part 141 are			
		approved.			

Iron

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry	October 2003	EPA/600-R-06/115	National Environmental Methods Index
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		<u>Standard Methods</u>
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to			
		Subpart C of Part 141 are			
		approved.			

Manganese

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry	October 2003	EPA/600-R-06/115	National Environmental Methods Index
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		<u>Standard Methods</u>

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Odor

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2150 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
2150 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
2150 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
2150 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
2150 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2150 B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1293-84	ASTM International	Standard Test Methods for pH of Water	1984		ASTM International
D1293-95	ASTM International	Standard Test Methods for pH of Water	1995		ASTM International
D1293-99	ASTM International	Standard Test Methods for pH of Water	1999		ASTM International
D1293-12	ASTM International	Standard Test Methods for pH of Water	2012		ASTM International
150.1	EPA	In Methods for Chemical Analysis of Water and Wastes	March 1983	EPA/600/4-79/020	National Environmental Methods Index
150.2	EPA	In Methods for Chemical Analysis of Water and Wastes	March 1983	EPA/600/4-79/020	National Environmental Methods Index
4500-H⁺ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-H⁺ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-H⁺ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-H⁺ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-H ⁺ B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-H⁺ B- 00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods

Silver

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry	October 2003	EPA/600-R-06/115	National Environmental Methods Index
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		<u>Standard Methods</u>

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3113 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
I-3720-85	U.S. Geological Survey	In Methods for Determination of Inorganic Substances in Water and Fluvial Sediments, USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.	1989		<u>USGS</u>

Sulfate

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D4327-97	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	1997		ASTM International
D4327-03	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2003		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D4327-11	ASTM International	Standard Test Method for Anions in Water by Suppressed Ion Chromatography	2011		ASTM International
D516-90	ASTM International	Standard Test Method for Sulfate Ion in Water	1990		ASTM International
D516-02	ASTM International	Standard Test Method for Sulfate Ion in Water	2002		ASTM International
D516-07	ASTM International	Standard Test Method for Sulfate Ion in Water	2007		ASTM International
D516-11	ASTM International	Standard Test Method for Sulfate Ion in Water	2011		ASTM International
300.0, Rev. 2.1	EPA	In Methods for the Determination of Inorganic Substances in Environmental Samples	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	ЕРА	In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1	August 2000	EPA 815-R-00-014	National Environmental Methods Index
375.2, Rev. 2.0	EPA	In Methods for the Determination of Inorganic Substances in Environmental Samples	August 1993	EPA/600/R-93/100	National Environmental Methods Index
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4110 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-SO ₄ ²⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-SO ₄ ²⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-SO ₄ ²⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-SO ₄ ²⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-SO ₄ ²⁻ C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-SO ₄ ²⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-SO ₄ ²⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-SO ₄ ²⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-SO ₄ ²⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-SO ₄ ²⁻ D	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-SO ₄ ²⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-SO ₄ ²⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-SO ₄ ²⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-SO ₄ ²⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-SO ₄ ²⁻ E	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4500-SO ₄ ²⁻ F	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
4500-SO ₄ ²⁻ F	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
4500-SO ₄ ²⁻ F	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
4500-SO ₄ ²⁻ F	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
4500-SO ₄ ²⁻ F	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-SO ₄ ²⁻ C-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-SO ₄ ²⁻ D-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
4500-SO ₄ ²⁻ E-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
4500-SO ₄ ²⁻ F-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
D6508, Rev. 2	Waters Corp.	Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte			Waters Corporation

Total Dissolved Solids

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2540 C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
2540 C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
2540 C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
2540 C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
2540 C	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
2540 C-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to			Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		Subpart C of Part 141 are approved.			

Zinc

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry	October 2003	EPA/600-R-06/115	National Environmental Methods Index
200.7, Rev. 4.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In Methods for the Determination of Metals in Environmental Samples, Supplement I	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3111 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 18 th Edition	1992		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 19 th Edition	1995		<u>Standard Methods</u>

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 20 th Edition	1998		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 21 st Edition	2005		Standard Methods
3120 B	Standard Methods	Standard Methods for the Examination of Water and Wastewater, 22 nd Edition	2012		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			Standard Methods